

What is Claimed is

1. An insulated electrical conductor¹⁰ with preserved functionality in case of fire,^{1,5-8} comprising a metallic conductor,¹¹ a first glass¹² and/or mica containing layer¹³ applied to said conductor,¹¹ and a second plastic layer sheathing the first layer,¹³ characterized in that the first layer is made of at least two longitudinally introduced strips (2, 3) of glass^{1,43-53} and/or mica, which are applied to the conductor,¹¹ wherein the width of said strips (2, 3) is selected such that the strips (2, 3) overlap each other by at least 50%.

2. A conductor as claimed in Claim 1, characterized in that at least one strip or thread¹³ (4, 5) of a high-tensile, flame resistant material is helically applied to the first layer.

3. A conductor as claimed in Claim 1, characterized in that the strips are made of a glass filament strip with mica particles, which are bonded to the glass filament strip^{3, 35-53} with a silicon resin.

4. A conductor as claimed in Claim 1, characterized in that two strips or threads (4, 5) are wound onto the first layer (2, 3) with an opposite direction of lay.

5. A conductor as claimed in Claim 2, characterized in that the thread (4, 5) of high-tensile flame resistant material is a glass filament or carbon fiber thread.

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6. A conductor as claimed in Claim 1, **characterized in that**, with the use of two strips, the overlap area (2a) of the first strip (2) is offset by 180° in relation to the overlap area (3a) of the second strip (3).

7. A conductor as claimed in Claim 1, **characterized in that** the strips (2, 3) of the first layer are glass/mica strips, and the mica layer faces the conductor (1).

8. An electrical cable with preserved functionality in case of fire, **characterized in that** said cable comprises at least two stranded conductors as claimed Claim 1.

9. A process for producing an insulated electrical conductor with preserved functionality in case of fire, in which an electrical conductor is provided with a first glass and/or mica containing layer, and a second plastic layer is subsequently applied to said first layer, **characterized by** the following steps:

a) applying a first glass and/or mica containing longitudinally introduced strip to the conductor with an overlap of at least 50%,

b) applying a second glass and/or mica containing longitudinally introduced strip to the first strip, again with an overlap of more than 50%, wherein the overlap of the second strip is offset by 180° in relation to the overlap of the first strip,

c) in tandem extrusion of a plastic layer onto the conductor provided with the first layer.

10. A process as claimed in Claim 9, **characterized by** the step of winding at least one strip or thread onto the second strip prior to step c).

11. A process as claimed in Claim 9, **characterized in that** the longitudinal formation of the strips is effected within a tubular guide.

12. A process as claimed in Claim 10, **characterized in that** two glass filament or carbon fiber threads are helically wound onto the second strip with an opposite direction of lay.

13. A process as claimed in Claim 9, **characterized in that** several conductors are simultaneously produced and are subsequently provided with a common plastic sheath.

14. A process as claimed in Claim 12, **characterized in that** the conductors are stranded together and a plastic outer sheath is subsequently extruded onto the stranded composite.

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